

Title

Building Critical Thinking Skills for Online Research

Target Audience

This course is designed for current and pre-service teachers of grades K-12.

Facilitator

TBA

Credit

To be determined by college or university

Course Description

This course is designed to give educators strategies to help students build critical thinking skills and attain information literacy. Learners will explore different information search process models and strengthen their online research skills. Learners will then create a model for use in an Internet-based lesson that is designed to teach students where to find information, how to evaluate it, and how best to apply it to the task at hand.

Standards

This course will help the teacher meet National Education Technology (NET) standards 1, 2, 3, 5 and 6.

This course will help your students to meet NET foundation standards 1, 3, 4, and 6.

Learning Outcomes

After completion of this course, the learner will be able to:

- Explain the information search process and describe how it can support critical thinking skills and increase information literacy.
- Compare and contrast several information search process models.
- Adapt or combine elements of the models to construct your own unique Information Search Process model.
- Apply your knowledge of information search processes to Internet-based classroom activities.
- Integrate your knowledge of the information search process into an Internet based lesson or unit to be used in your classroom.

Process

In each activity the learner will access numerous online resources from high quality sources. Throughout the course, learners will also access video vignettes showing “best practice” examples for technology integration.

Activity 1: Explore the issues around the use of an information search process and formulate goals for use of an information search process with your students.

In this activity, you will explore the issues around the use of an information search process model. This will inform your current thinking about research and the information search process and help you identify the issues and goals that you will address in your own model.

Learners will:

Explore the following Web sites:

- “Library Skills, Information Skills, and Information Literacy: Implications for Teaching and Learning.” by James O. Carey.
- “Learning Strands: The Information Search Process in Constructing Knowledge,” by Pitts and Stripling.
How do we promote inquiry? Three learning strands are intertwined: content knowledge, knowledge of the information-seeking process, and knowledge of general "life skills" (problem-solving and critical thinking). Students do not have much knowledge of the information-seeking process.
- “Conducting Action Research on the Information Search Process,” by Joan Yoshina
Article from Best Practices: Elementary.
- “Grazing the Net: Raising a Generation of Free Range Students,” by Jamie McKenzie
Also available in the September 1998 Issue of *Phi Delta Kappan*
Readings in critical thinking and questioning. How do we help students navigate through a complex resource like the Internet? Discussion of students as "Infotectives."
- “Filling the Toolbox: Classroom Strategies to Engender Student Questioning,” by Jamieson A. McKenzie and Hilarie Bryce Davis
Readings in critical thinking and questioning. Strategies and activities that can help students process and use information. Ideas for designing effective inquiry units and supporting critical thinking.
- Thomas, Nancy Pickering. *Information Literacy and Information Skills Instruction: Applying Research to Practice in the School Library Media Center*
Chapters 2-4, 6, and 8 are especially useful for this course. Includes descriptions and discussions of many of the information search models. Publisher; Libraries Unlimited, 1999. Englewood, Colorado. This resource is not required for the completion of this course, though it is an outstanding resource and highly recommended by the author.

Submit three or four key insights and issues gained from your reading. List the goals you identified as important for your students in an information search process.

Present a question or topic of interest that emerged as you developed your goals. Respond to at least one other person's question or topic.

Activity 2: Examine six information search process

In the last few decades, as educators have taken a serious look at information skills and the search process, several information search process models have been developed. In this activity you will examine six of these models. You will use these models in the next activity to help you design your own information search process model.

Learners will:

Explore the following Web sites:

- “The Research Cycle Model”
Jamie McKensie explains his Research Cycle model.

- “Pathways Model”
The process approach to information literacy.
- “Pathways to Knowledge Information Skills Model”
Introduced in 1995 in *Pathways to Knowledge: Follett's Information Skills Model* by Majorie Pappas and Ann Tepe. (Print Publication by Follett)
The process approach to information literacy. This text is highly recommended, though not required, for this activity.
- “Information Search Process Model” by Carol C. Kuhlthau, Professor, Library and Information Studies, Rutgers University, New Brunswick, New Jersey
SLMQ Volume 18, Number 1, Fall 1989.
A critical look at the Information search process. Feelings, thoughts and actions commonly experienced by students are described in six stages.
- “Kuhlthau's Information Search Process Model”
A simple visual of Kuhlthau's model. This might help you conceptualize the process.
- “Information Seeking Models”
This paper by K.Alix Hayden contains a solid discussion of Kuhlthau's model and the Big6 model.
- “The Big6 Model,” by Eisenerg and Berkowitz
One of the best known and advertised information search process models. A Web site dedicated to the Big6 Information and Technology Skills.
- “S.C.O.P.E. Model”
A process strategy or research model. This model includes five steps and is one of the simpler models you may choose to examine.
- “Comparing Model”
View a comparison in chart form of these models: Kahlthau, Big6, Irving, Pitts/Stripling, and New South Wales.

Submit the completed table. Note any features you think will work particularly well for your students

Address one of the following questions based on the information search process models you examined: In what ways are models similar and different from each other? Or What are the overall strengths and weaknesses of the models? Respond to at least one other person's posting with a question or idea.

Activity 3: Create your own information search process model

It is likely that none of the information search process models will be exactly right for your students. In this activity, you will create the steps for your own information search process model. In doing this, you will be identifying those steps that you consider most important to share with your own students.

Learners will:

View and reflect on one video

Explore some of the following Web sites:

- “Library Skills, Information Skills, and Information Literacy: Implications for Teaching and Learning,” by James O. Carey.
This is a lengthy article but worthwhile. Be sure to look at Appendix D as well.
- “Learning Strands: The Information Search Process in Constructing Knowledge,” by Pitts and Stripling.
How do we promote inquiry? Three learning strands are intertwined: content knowledge, knowledge of the information-seeking process, and knowledge of general "life skills" (problem-

solving and critical thinking). Students do not have much knowledge of the information-seeking process.

- "Conducting Action Research on the Information Search Process," by Joan Yoshina
Article from Best Practices: Elementary.
- "Grazing the Net: Raising a Generation of Free Range Students," by Jamie McKenzie
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Readings in critical thinking and questioning. How do we help students navigate through a complex resource like the Internet? Discussion of students as "Infotectives."
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Readings in critical thinking and questioning. Strategies and activities that can help students process and use information. Ideas for designing effective inquiry units and supporting critical thinking.
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- "The Research Cycle"
Jamie McKensie explains his Research Cycle model.
- "Pathways to Knowledge: The Model"
The process approach to information literacy.
- "Pathways to Knowledge Information Skills Model"
Introduced in 1995 in *Pathways to Knowledge: Follett's Information Skills Model* by Majorie Pappas and Ann Tepe. (Print Publication by Follett)
The process approach to information literacy. This text is highly recommended, though not required, for this activity.
- "Information Search Process: A Summary of Research and Implications for School Library Media Programs," by Carol C. Kuhlthau, Professor, Library and Information Studies, Rutgers University, New Brunswick, New Jersey
A critical look at the Information search process. Feelings, thoughts and actions commonly experienced by students are described in six stages.
- "Kuhlthau's Information Search Process Model"
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- "The Big6 Approach to Information Problem Solving." by Eisenerg and Berkowitz
One of the best known and advertised information search process models. A Web site dedicated to the Big6 Information and Technology Skills.
- "S.C.O.P.E. The "Fresh Breath" Approach to Research"
A process strategy or research model. This model includes five steps and is one of the simpler models you may choose to examine.
- "Comparison of Information Skills Process models"
View a comparison in chart form of these models: Kuhlthau, Big6, Irving, Pitts/Stripling, and New South Wales.

Submit a description of your new model and name it. Discuss why you incorporated certain elements and left out others.

Describe a challenge or problem you encountered in developing steps for your model. Respond to at least one other person's challenge with suggestions, ideas, or advice.

Activity 4: Create a visual representation of your model

Using the information search process model you created in Activity 3, you will develop a visual representation of the model. This will help you communicate the process and provide scaffolding for students to build their understanding.

Learners will:

View and reflect upon one video

Explore the following Web sites:

- “Berry picking Model of Information Retrieval”
The following model that Bates (1989) developed shows a user's behaviors and actions as she/he goes through an evolving query using "berry picking" as a visual analogy for the search process.
- “Big 6 Resources”
A listing of educational Web resources that use the big6. An excellent site to scan for ideas and see how other educators incorporate the information search process.
- “Big 6 Assignment Organizer”
Let the big six help you get students organized for research.
- “Cybertours for Information Searchers”
Hands on instructional tours of the web. This site will help you see how you might teach students specific information skills.
- “Checklist for an Informational Web page”
Want your students to evaluate a Web page? This site will help.
- “Kathy Schrock's Guide for Educators”
An organized list of sites for enhancing curriculum and teaching. One of the best sites for educators on the web.
- *Understanding by Design* by Grant Wiggins and Jay McTighe
Association for Supervision and Curriculum Development. 1998.
If you are at a loss as to how to design standards based lesson plans and curriculum, get this book. This book is not required for the completion of this course but is highly recommended by the author.

Submit a graphic depiction or written description of the visual representation of your model. Include any analogies or metaphors you used to help communicate the process.

Ask for peer feedback on any components of your visual representation that are troubling you OR elaborate on an aspect that you're particularly pleased with. Respond to another person's comments.

Activity 5: Develop or adapt a lesson or unit that utilizes the Internet to teach one of the steps in your model

In this activity you will adapt or create a lesson or unit that utilizes the Internet for seeking information to teach students one of the steps in your information search process model.

Learners will:

View and reflect upon one video

Explore the following Web sites:

- “Big 6 Resources”
A listing of educational Web resources that use the big6. An excellent site to scan for ideas and see how other educators incorporate the information search process.
- “Big 6 Assignment Organizer”
Let the big six help you get students organized for research.
- *Understanding by Design* by Grant Wiggins and Jay McTighe
Association for Supervision and Curriculum Development. 1998.
If you are at a loss as to how to design standards based lesson plans and curriculum, get this book.
- “Checklist for an Informational Web page”
Want your students to evaluate a Web page? This site will help.
- “Web Evaluation Guide "Cybertour"
A Cybertour to help you and your students learn to evaluate websites - by Pam Berger.
- "Kathy Schrock's Guide for Educators"
An organized list of sites for enhancing curriculum and teaching. One of the best sites for educators on the web.

Describe your lesson by submitting answers to the following questions.

- What step will you be teaching?
- How much time will you devote to teaching this step in the process?
- What strategies will you use?
- What will students be doing in the classroom?
- How do you expect this to help your students become critical thinkers?
- How will students self assess as they go through the lesson?
- How will you assess the success of the lesson?

Share your lesson with another teacher and/or your school media specialist. Ask for comments, questions, and suggestions. You might discuss the possibility of collaboration with the media specialist or another teacher. From your discussion with a colleague, post an idea or question in the "Discussion Board" and respond to one other person's post.

Final Project

Before you submit your final project, you should review your submissions. This will allow you to review the work you have done in order to complete your final project. You should make sure you are meeting each of the final project criteria. Review each section to ensure that all are complete and have been edited for content and grammar. You may want to submit your project draft to a peer or colleague to assist with editing. When you are ready to submit your final project, compile the following sections:

Submit your completed information search process model and your completed lesson plan. Your information search process model should:

- Have 3 to 8 clearly defined steps
- Support the goals you identified as important for your students in an information search process

Your lesson plan should:

- Identify the step of the model you are addressing
- State your goal(s)
- Be clearly laid out in a step by step manner
- Present strategies in sufficient detail so that a clear picture of what will happen is provided



- Identify materials and resources required
- Involve students in self assessment during the lesson
- Explain how the success of the lesson will be assessed
- Define the length of the collection of lessons and the timeline for completing it

Schedule

This course is scheduled to take approximately 30 hours to complete readings, activities, video, assignments, reflections and a final project.

Requirements

Learners are expected to:

- Complete all assignments
- Participate in all discussion boards

Facilitators are expected to:

- Provide feedback to learners
- Participate in discussions to keep them moving forward
- Provide assistance to learners who need it

Evaluation

Pass/fail upon satisfactory completion of assignments and discussion board participation

Materials (hardware, software, plug-ins)

Technical Requirements

- Word processor
- Internet service provider
- Email

Academic Dishonesty Policy

To be inserted by university institution only